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ABSTRACT

A project developed rapid response, advanced technology courses that met the apparel market labor needs of the El Paso (Texas) community. Courses were designed for four options: computerized marker making and pattern grading, computerized front office systems, high technology machinery operation, and high technology machinery mechanics. The project provided training in basic skills and high technology applications to 160 dislocated and underemployed workers. An admissions/assessment/advisement specialist provided group and individual counseling, both personal and academic. Self-empowerment workshops were aimed at improving student self-esteem, motivation, and confidence. The specialist's most important role was as liaison between students and supportive agencies. The project established a computerized apparel industry job placement clearinghouse capable of matching participant skills with both long-term and short-term job openings. Implementing activities included computer-aided instruction, faculty recruitment, advisory committee participation, student recruitment, and technology infusion. (The nine-page report is followed by these appendixes: list of industry representatives; outlines for six courses--computerized apparel front office systems, programmable double needle sewing machines, programmable specialty sewing machines, programmable single needle sewing machines, computerized apparel marker making and pattern grading, and advanced industrial sewing machine technician; project forms; and correspondence.) (YLB)

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EL PASO COMMUNITY COLLEGE
Advanced Technology Training Program
for the
Apparel Industry

V199A00029

FINAL REPORT

This project demonstrates that in spite of structural and attitudinal barriers, a collaborative effort between some of El Paso's employers and the College can produce a successful occupational training program which resolves some important area work force problems. In developing the project the College used several critical analyses of successful programs. These analyses, reinforced by a number of case studies developed by the National Alliance for Business, provided the framework for El Paso's project.

The major objectives of the project have been:

Objective 1. To develop rapid response, advanced technology courses which meet the apparel market labor needs in the following four options: computerized marker making and pattern grading; computerized front office systems; high technology machinery operation; and high technology machinery mechanics.

The course outlines for the above objective are included in Appendix B. All courses were developed and offered in rapid response to the apparel market labor needs of the El Paso community.

Objective 2. To provide training in basic skills and high technology applications to a minimum of 120 dislocated and underemployed workers for the apparel industry.

The following table shows the areas in which students received training and number of students in each area:

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Course Description	No. of Students
Computerized Marker Making & Pattern Grading	21
Computerized Front Office Systems	38
High Technology Machinery Operations	81
High Technology Machinery Mechanics	20
TOTAL NUMBER OF STUDENTS TRAINED	160

Objective 3. To provide on-going tracking, counseling, and supportive services for project participants during training as well as in post-training employment.

Support services were vital to the success of our program in assuring that students overcame academic and personal hardships. Our students came from different ethnic backgrounds, 98% of them Hispanic, and varied in age, gender, attitude, and educational background. The Admissions/Assessment/Advisement Specialist provided assistance to students through group and individual counseling, both personal and academic.

Self-empowerment workshops were aimed at improving student self-esteem, motivation, and confidence (Appendix E). Through these workshops, students were able to gain a stronger understanding of themselves, their roles in the workplace and in society at large.

Student progress was evaluated on a bi-weekly basis and a formal evaluation form was completed and signed by the student, instructor, and the Admissions/Assessment/Advisement Specialist. The most important role of the Specialist, however, was that of a liaison between the student and the supportive agencies, like the Mary L. Peyton Foundation, which provided emergency funds for rent, utilities, day care, and transportation assistance which allowed the students to stay in school and complete their courses. With the untimely death of our Specialist in

May of 1991, we continued these services as a group effort, and to date, can boast a 92% retention rate.

Objective 4. To establish a computerized apparel industry job placement clearinghouse, with capabilities of matching participant skills with both long-term and short-term job opening in the apparel industry.

The Job Developer was responsible for placing Apparel Project graduates in positions that utilized their newly acquired skills. Having had maximum input into the development of the curriculum, the apparel manufacturing industry was eager to hire our graduates.

It must be noted that the computerized job bank, as specified in the grant, was developed to specifications requested by the apparel manufacturing community. The students resumes were placed in the computer with their updated information. When an employer had a vacant position, they telephoned our job developer to inquire about potential candidates. Depending on their preference, students were notified of available position and then referred to the employer, or the resume was delivered to the potential employer and they notified the student. In either case, the student's file has been updated to reflect the outcome of communication with each company.

To date, the Apparel Project has a 97% placement rate for our graduates. Two percent returned to school to further their education, and the remaining one percent are interviewing for positions.

RELATED ACTIVITIES

In implementing the above objectives the following activities were addressed:

CURRICULUM

Each of our apparel manufacturing representatives came to us with specific needs in mind. The needs were the same for most companies and could be met with practical hands-on instruction. Since the Project Coordinator was hired five months after the grant start date, time was not available for the DACUM process. However, to ensure the quality of learning, advisory

committee members and the Project Director met to develop a graphic profile of the tasks required for the designated occupations.

As faculty members were hired, they were provided with the findings necessary to facilitate the development of the curriculum. As the competencies became clearer, the Project Coordinator acted as a liaison between the faculty and industry representatives to expeditiously ensure the accuracy and quality of the courses. Each of the Apparel Project's courses was developed to offer students basic skills instruction integrated with technical theory and practical hands-on instruction. Appendix B contains the course outlines.

COMPUTER-AIDED INSTRUCTION

The basic skills component of the program was designed to integrate basic job-specific reading, writing, and math skills with technical instruction. The instructor was responsible for researching and implementing an effective system for our program. The faculty and Project Director worked to develop vocationally-specific curriculum for each program.

The basic skills lab originally housed fourteen PC's but was expanded to include twenty machines. Initially, various educational software in math, reading and writing was available. Later the lab was further expanded and supplemented these programs with typing, ESL (English as a second language), GED, and low level adult reading and math software as well as exercise materials.

Based on the competency levels local industry representatives recognized essential for entry level jobs and the results of the TABE and Moreno assessments, an individual education plan (IEP form shown in Appendix C) was developed for each student to include math, reading, vocabulary, and comprehension. The amount of time spent in basic skills instruction differed for each student, and was based on the TABE and Moreno results and each student's individual motivation. During the program students attended an average of three hours of CAI courses and an average of two hours of basic skills and job readiness lectures weekly.

As students became proficient in basic skills they were post-assessed and released from attending basis skills classes. Some students were pursuing a GED through another area of the college and were exempt from basic skills. Other participants tested out of basic skills with a 12.0 or higher, but in Spanish rather than in English. Since 80% of our students were monolingual Spanish speakers, ESL materials were provided to either supplement a concurrent ESL course, as was the case with the GED materials, or to introduce the student to the English language.

Basic skills instruction was accomplished through computer-aided instruction and lectures. Although the students were receptive to the user-friendly hardware and software in the basic skills lab, the students received concurrent lectures. Both methods allowed for immediate reinforcement of the technical math and vocabulary which facilitated the training process. Writing skills were developed through writing assignments based on topics related to the student's specific technical occupation. As patterns of deficiencies were identified, students were tutored individually and assigned to writing, grammar, math, typing, or language modules on CAI.

Throughout the duration of the training, the student's progress was measured against learning objectives as outlined in the IEP. Student files were reviewed weekly, and the basic skills instructor conferred with students individually to evaluate the student's academic progress. Upon exiting the program, all students were given the TABE. On the average, English speaking students who took English Basic Skills and monolingual students who received ESL training raised their reading and comprehension by two to three grade levels.

FACULTY

Recruitment of faculty was accomplished through industry contacts, professional associations and most importantly, the advisory committee members. Each of our faculty possessed the precise technical expertise in their field and a demonstrated record of teaching this material while on the job.

Each of our faculty came highly recommended by both industry vendors and apparel manufacturing representatives. All of our night instructors were lent to the Project, with full approval of their day job supervisors, from their own manufacturing company

ADVISORY COMMITTEE

The Apparel Project staff worked very closely with representatives of the apparel industry to ensure that the courses developed, methodologies utilized, and the competencies required, realistically met the current and future needs of the apparel industry.

The Project's Coordinator telephoned small to medium sized factory owners, and then large factory plant managers and upper management to discuss the grants objectives. The companies were then separated according to the course subject or subjects that they were most interested in developing.

Company representatives developed a list of competencies they would expect a prospective employee to possess. Industry requirements determined minimum basic skills performance levels. Minimum reading and math performance levels were determined by analyzing job-required reading materials such as technical manuals, machine operating instructions, and job task analysis provided by faculty and apparel industry representatives.

There were three official Advisory Committee meetings. There were also numerous informal daily, weekly and monthly meetings with individuals within most of the factories. This ensured the quality and expeditious development of the Project, while maintaining motivating communication with factory representatives. The three official Advisory Committee meetings brought representatives together to share ideas and to discuss and evaluate the objectives as these goals were accomplished and implemented. This was most effective in utilizing their time and resources for the benefit of the Apparel Project and our students, as well as for the benefit of the manufacturers themselves. A listing of the manufacturers that participated in these meetings and participated in the project is provided in Appendix A.

RECRUITMENT

The recruitment process required and established an effective communication network with several local agencies such as the Texas Employment Commission, the Texas Department of Human Resources, the Private Industry Council, and several departments within the El Paso Community College, including Job Placement, and the Alpha Center.

Most of the participants came from the apparel manufacturing industry. Management from both large and small companies, like Levi-Strauss, Wrangler, Lupe's Manufacturing, Sierra Western, and others, invited the Apparel Project staff into their facilities to provide information to the employees about the classes. These presentations were conducted both in English and Spanish, and were scheduled before, during, and after the work shifts. At the convenience of the employers, our presentations were made any time between 7 a.m. and 11 p.m. Agency representatives, employers, and employees were invited to tour our facility in order to observe the depth of training offered through the Project.

A brochure was designed and distributed to the agencies, manufacturers, EPCC offices, housing developments and career fairs which reached a high percentage of apparel manufacturing employees. A more detailed pamphlet was designed and distributed for each of the four course subjects. As each class for each subject was scheduled, the pamphlets were circulated to ensure maximum communication with potential students. The Apparel Project was the topic of several local television and radio shows, taped in both English and Spanish. This media exposure helped inform potential participants of the program.

Potential students were initially interviewed to determine interest, commitment, and eligibility, as outlined in the grant. They completed an application (see Appendix D) which helped us to assess their backgrounds and potential.

ASSESSMENT

To meet federal guidelines and to best assess a possible student's potential, each candidate had to complete or provide the following in order to enter technical training:

1. Complete the Apparel Project application
2. Complete the TABE test with an 6.0 or better. (The monolingual Spanish students could not take the TABE. They were given the Moreno Test. A score of 6.0 or better allowed access to technical training combined with CAI ESL Basic Skills training. Upon exiting the program, the monolingual students were given the TABE test. The majority scored between 2.0 and 3.0 in English reading and comprehension.)
3. Provide proof of United States citizenship or legal resident alien status
4. Provide written documentation of current or past apparel industry experience in the subject area for which applying

Because of the high demand for classes and the space limitations, some students were placed on a waiting list. The Test of Adult Basic Education (TABE) and the Moreno Test are norm-referenced test designed to measure achievement in reading and mathematics. TABE and Moreno test results indicated the grade level and, most importantly, areas of deficiency. This enabled the CAI instructor to develop and Individual Education Plan (IEP) that concentrated on the areas of deficiency. The grade level of 6.0 was established with input from both the instructors and Advisory Committee members, as well as equipment vendors, who participated in the development of the curriculum for each of the courses. It is important to note that exceptions to this requirement were made in individual cases where an exceptionally demonstrated work ability existed. However, these individuals had a difficult time completing the course work in a timely manner.

TECHNOLOGY INFUSION

One of the easiest accomplishments for the Apparel Project, was receiving donations. Four days work brought in over $25,000 worth of donated software and materials to the project. Vendors recognized the importance of contributing to our efforts to provide quality training and

assistance to our local manufacturers. A listing of vendors who donated materials is found in Appendix F.

Our efforts paid off by producing students who were hired by representatives who infused our advanced technology into their companies. Sierra Western bought the Intelatog system and several programmable sewing machines. Border Apparel purchased Sunbrand's FPS (factory production system). Many other factories recognized the benefits of upgrading the abilities of their current industrial sewing machines. Over a dozen apparel manufacturing representatives have toured our facilities and we had the opportunity to demonstrate our apparel manufacturing equipment.

REPLICATION

For any organization or educational institution to replicate the Advanced Technology Center's Apparel Project, the following must be provided:

- Direct involvement of college faculty and a business and industry advisory group in the development and on-going evaluation and review of curriculum.
- Close partnerships with manufactures and distributors of advanced apparel software and hardware to provide technical assistance, faculty training and loans/donations of hardware and software.
- Comprehensive and supportive intake counseling and testing.
- Intensive training to minimize the calendar-time needed to enter the job market.
- Competency-based instruction linked directly to job market needs and presented, as much as possible, in a hands-on mode.
- Individualized computer-assisted basic skills instruction related directly to career areas.
- Strong motivational and job readiness components.
- Pro-active rather than re-active counseling and support.
- Job placement services for long-term and short-term employment.
- Intensive admission and program counseling to provide participants with a significant first step toward pursuit of a degree.
- On-going interaction and support services for participants throughout training, employment and return to school.

APPENDIX A

Industry Representatives

Industry Representatives

Action West Manufacturing
1931 Myrtle
El Paso, TX 79901

Apparel Mark, Inc.
7598 North Mesa
El Paso, TX 79912

Bluemel Saddlery
4628 Montana
El Paso, TX 79903

Border Apparel
7177 Merchants
El Paso, TX 79925

Farah Manufacturing Co.
P.O. Box 9519
El Paso, TX 79985

Greater Texas Finishings
1430 Vanderbilt
El Paso, TX 79935

Paluzi Enterprises, Inc.
2931 Rosa
El Paso, TX 79905

Ruddock Manufacturing
P.O. Box 10205
El Paso, TX 79993

Sun Apparel
11201 Armor Dr.
El Paso, TX 79935

Union Manufacturing Co.
801 Texas
El Paso, TX 79901

Wrangler Co.
1138 Barranca
El Paso, TX 79935

Stitches
1144 Vista De Oro
El Paso, TX 79935

Christian Fashions
1314 Myrtle
El Paso, TX 79901

Intersew
215 Willow St.
El Paso, TX 79901

Primrose Fashions of Texas
2101 Myrtle
El Paso, TX 79901

Sierra Western Apparel
1701 Myrtle
El Paso, TX 79901

APPENDIX B

Course Outlines

EL PASO COMMUNITY COLLEGE

ADVANCED TECHNOLOGY CENTER

COURSE OUTLINE

COURSE NUMBER: TEC 783

COURSE TITLE: Computerized Apparel Front Office Systems

CONTACT HOURS: 160

I. COURSE DESCRIPTION:

Various vendors are represented in this integrated apparel manufacturing business system designed to cross train the student in several areas including order entry, piecework payroll, and inventory systems software.

II. COURSE RATIONALE:

As the local apparel industry infuses computerized front office systems into their operation, the need for computer educated payroll clerks, production trackers, and inventory clerks increases. This course will provide such training on various software packages to experienced piecework payroll, inventory, and production personnel who manually work in areas being computerized.

III. COURSE OBJECTIVES:

Upon successful completion of the course, the student will be able to:

A. Properly "start up" each system
B. Properly "shut down" each system
C. Format a floppy diskette
D. Check disk (with Fix-if necessary)
E. Back up Data files and accounts
F. Display free space on disk
G. Check Database space available
H. Expand Database size
I. Operate piecework ticket production module
J. Operate piecework payroll system
K. Operate gross to net payroll
L. Perform work in process
M. Work through system utilities

IV. **TARGET POPULATION:**

Experienced payroll, production, and order entry clerks who manually work in areas being computerized.

V. **METHODS OF PRESENTATION:**

The instructional methods include lectures, discussions, demonstrations, visual aids, as well as individual hands-on projects and practice on the computer systems.

VI. **METHODS OF EVALUATION:**

The skills and knowledge for identification and demonstration as stated in the objectives will be evaluated by assignments and tests. Grades will be based on study questions (40%) and laboratory activities (60%). Letter grade will be assigned as follows:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Students will be able to compute their grade average any time during the course. Missed assignments and make-up tests will be given at the discretion of the instructor.

Students must be able to demonstrate skill achievement of not less than 70% accuracy.

VII. **RECOMMENDED TEXTS OR MATERIALS:**

Manuals and catalogues:

(1) Intelatog-Piecework Production Control System Manual, USA

(2) Factory Production System Manual, Canada

Additional handouts will be generated by the instructor as necessary.

VII. CALENDAR OF TOPICS:

MAJOR TOPICS	NUMBER OF HOURS
A. SYSTEM UTILITIES	6
System Start	
Shutting Down the System	
Format a floppy diskette	
Check disk	
Check disk with FIX	
Backup data files	
Backup account	
Display free space on disk	
Check database space available	
Expand database size	
Carbon copy	
B. PIECEWORK TICKET PRODUCTION SYSTEM	36
Starting up the Ticket Production System	
Ticket Production Menus	
Moving through the Menus	
Line 25 Prompt	
Types of Routines	
Data Entry Conventions	
Modifying a field	
Moving through fields	
Date fields	
Numeric fields	
Print Piecework Tickets for an existing style	
Print tickets for several production orders	
Re-print piecework tickets	
Add a new style	
Clearing OLD production orders	
Changing an operation sequence	
Changing printers	
Operation Maintenance	
Control operation numbers	
Operation variation fields	
Operation detail information	
Bulletin maintenance operating instructions	
Operation sequence operating instructions	
Ticket format maintenance operating instructions	
Ticket grid operating instructions	
Copy bulletin operating instructions	
Production order maintenance operating instructions	
Bundle Entry operating instructions	
Setup ticket order operating instructions	
Ticket printing routines	
Schedule ticket orders	
Print from schedule	

B. PIECEWORK TICKET PRODUCTION SYSTEMS (con't)

Print an individual ticket order
Modify ticket orders
Job Group Maintenance
Machine class maintenance
Product category maintenance
Season maintenance
Size scale maintenance
Size Maintenance
Color Maintenance
Base Code maintenance
Work center maintenance
Section maintenance
Plant maintenance
Operation Cross reference routines
Create operation cross reference
Clear operation cross reference
Operation cross reference report
Single OPER cross reference
TP system operator functions
Historical ticket schedule update
Clear historical ticket schedule
Adjust operation rates
Select PROD's to be cleared
Clear selected production orders
Delete records
Recalculate Bulletin labor loads
Change Operation numbers
System operator functions
Printer parameter maintenance
Run DOS command
Change company name
Configure printer
Define output devices
Standard maintenance Routines
Standard TABLE maintenance routine
Ticket production reports
Operation master
Style master
Bulletin master
Production order
Bundle checkoff
Released Production
Operation Cross reference
Supporting files
Messages

C. PIECEWORK PAYROLL 60

- Starting up the Piecework Payroll System
- Piecework Payroll Menus
- Moving through the Menus
- Line 25 prompt
- Types of routines
- Data entry conventions
- Data entry
- Modifying a field
- Moving through a field
- Date fields
- Numeric fields
- Adding a new employee
- Terminating an employee
- Changing employee information
- Adding a cost center
- Running a payroll
- Year-end payroll procedures
- File maintenance program operating instructions
- Employee maintenance
- Employee maintenance operating instructions
- Changing the employee number
- Employee master
- Piecework information
- Employee absentee maintenance
- Trainee update
- Employee operation performance
- Change employee average
- Employee earnings history
- Work code maintenance
- Base code maintenance
- Minimum code maintenance
- Split incentive maintenance
- Cost center maintenance
- Training curve maintenance
- Daily program operating instructions
- Gumsheet entry
- Timecard entry
- Daily absentee entry
- Daily production entry
- Post daily gumsheets
- Post to DAILY LER
- Weekly program operating instructions
- Open payroll WEEK
- Close entry for WEEK
- Delete detail for payroll week
- Delete LER information for payroll week
- Delete all employee info. for payroll week
- Process employees
- Post vacation hours/earnings to employee

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C. PIECEWORK PAYROLL (con't)
Post weekly and transfer to LER
Post weekly trainee performance
Post operation performance history
Post weekly LER to PTD/YTD
Update weekly records
Enter guarantee average for week
Enter overtime hours for week
Update status of week(s)
Select current payroll week
Vacation/Holiday-activities
Calculate holiday pay
Reset weekly holiday pay
Create gumsheet holiday pay
Period/Yearly activities
Create payweek records for a year
Delete payweek records for a year
Clear employee YTD totals
Clear cost center PTD totals
Clear cost center YTD totals
Payroll system operator activities
Update bundles for all serial's
Recalculate rolling averages
Create DAILY/WTD/PTD/YTD LER records
Delete DAILY/WTD/PTD/YTD LER records
Delete selected absentee records
Delete selected weekly records
Delete select LER records
Piecework payroll calculations
Different types of work and pay
Rolling average
Weekly average
Guarantee average
Makeup to minimum
Trainee bonus
Night shift premium
Overtime premium
Holiday pay
Messages

D. GROSS TO NET PAYROLL 32
Arrears processing only
Regular pay
Straight time pay for O/T
Overtime pay - normal
Double time pay - normal
Special pay - normal
Other earnings
Other earnings - non-taxed
Other earnings - SEP check
Bonus pay - taxable

D. GROSS TO NET PAYROLL (con't)
- Bonus pay - SEP Check
- Bonus pay - non-taxable
- Holiday pay - normal
- Birthday pay
- P/R adjustment
- P/R adjustment - SEP. check
- Sick pay - normal
- Sick pay - non-taxable
- Vacation pay - normal
- Vacation pay - SEP. check
- D4K Deduction
- DSV Deduction
- Cash
- Labor exp. (Manl & Voids)
- FICA Payable
- FICA Expenses
- Federal Income Tax
- State Income Tax Payable
- City Income Tax Payable
- Other Taxes Payable
- Earned Income Credit Paid
- State Disability Ins.
- Federal Unemployment Ins.
- State Unemployment Ins.
- Other payroll expenses

E. WORK IN PROCESS 26
- Select report format
  - Sort by cat. #, bundle #, and style #
- Display operation description
  - Quantity, Labor $, Percentage $, Quantity %, for the completed and open units
- Calculate "To Complete" hours and operations
- Process beginning and ending ticket numbers

EL PASO COMMUNITY COLLEGE

ADVANCED TECHNOLOGY CENTER

COURSE OUTLINE

COURSE NUMBER: TEC 781

COURSE TITLE: Programmable Double Needle Sewing Machines

CONTACT HOURS: 50 hours

I. COURSE DESCRIPTION:

Designed to teach the operating principles of Advanced/ Programmable industrial sewing machines. Focus will be on double needle lockstitch models.

II. COURSE RATIONALE:

Designed to meet the needs of local manufacturers, by providing advanced training to upgrade the sewing skills of dislocated and underemployed sewers.

III. COURSE OBJECTIVES:

Upon successful completion of this course, the student will be able to:

A. Safely work in an apparel production environment (identify OSHA requirements).

B. Identify and perform the proper posture for sitting at the machine.

C. Identify and perform machine "start-up" procedures.

D. Identify each function/part of the machines.

E. Properly thread machine.

F. Select, program and perform the proper stitch related to a specific need on a garment area.

G. Program and operate each machine properly.

H. Identify the various (selected) types of stitches or programs.

I. Differentiate between thread tension, synchronizer, speed, bobbin tension, etc. and explain their operational relationship to the overall sewing process on each machine, and illustrate the effect on the stitch.

J. Define and perform basic stitch quality tests on various (selected) fabrics.

K. Perform basic machine preventative maintenance.

L. Identify basic types of machine malfunctions.

IV. **TARGET POPULATION:**

Unemployed and underemployed sewing machine operators that need advanced training to be employed as programmable machine operators.

V. **METHODS OF PRESENTATION:**

The instructional methods include lectures, discussions, demonstrations, visual aids, and as well as individual and group hands-on projects and practice on the machines.

VI. **METHODS OF EVALUATION:**

The skills and knowledge for identification and demonstration as stated in the objectives will be evaluated by assignments and tests. Grades will be based on study questions (40%) and laboratory activities (60%). Letter grade will be assigned as follows:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Students will be able to compute their grade average any time during the course. Missed assignments and make-up tests will be given at the discretion of the instructor.

VII. **RECOMMENDED TEXT AND SUPPLEMENTAL MATERIALS:**

Handouts dispensed will be generated by the instructor, as necessary.

VIII. **CALENDAR OF TOPICS:**

Major Topics:	Number of Hours
Shop Safety	2
Machine Posture	1
Start-up Procedures	3
Machine Parts/Functions	12
Thread machine	2
Requested Stitch Operations	4
Requested Program Operations	12
Stitch Quality Tests	3
Basic Preventative Maintenance	5
Basic Machine Malfunctions	6
	50 hours

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EL PASO COMMUNITY COLLEGE

ADVANCED TECHNOLOGY CENTER

COURSE OUTLINE

COURSE NUMBER: TEC 782

COURSE TITLE: Programmable Specialty Sewing Machines

CONTACT HOURS: 50 hours

I. **COURSE DESCRIPTION:**

Designed to teach the operating principles of Advanced/ Programmable Industrial Sewing Machines. Focus will be on the back pocket setter, button holes and automatic beltloop attachment.

II. **COURSE RATIONALE:**

Designed to meet the needs of local manufacturers, by providing advanced training to upgrade the sewing skills of dislocated and underemployed sewers.

III. **COURSE OBJECTIVES:**

Upon successful completion of this course, the student will be able to:

A. Safely work in an apparel production environment (identify OSHA requirements).

B. Identify and perform the proper posture for sitting at the machine.

C. Identify and perform machine "start-up" procedures.

D. Identify each function/part of the machines.

E. Properly thread machine.

F. Select, program and perform the proper stitch related to a specific need on a garment area.

G. Program and operate each machine properly.

H. Identify the various (selected) types of stitches or programs.

I. Differentiate between thread tension, synchronizer, speed, bobbin tension, etc. and explain their operational relationship to the overall sewing process on each machine, and illustrate the effect on the stitch.

J. Define and perform basic stitch quality tests on various (selected) fabrics.

K. Perform basic machine preventative maintenance.

L. Identify basic types of machine malfunctions.

IV. **TARGET POPULATION:**

Unemployed and underemployed sewing machine operators that need advanced training to be employed as programmable machine operators.

V. **METHODS OF PRESENTATION:**

The instructional methods include lectures, discussions, demonstrations, visual aids, and as well as individual and group hands-on projects and practice on the machines.

VI. **METHODS OF EVALUATION:**

The skills and knowledge for identification and demonstration as stated in the objectives will be evaluated by assignments and tests. Grades will be based on study questions (40%) and laboratory activities (60%). Letter grade will be assigned as follows:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Students will be able to compute their grade average any time during the course. Missed assignments and make-up tests will be given at the discretion of the instructor.

VII. **RECOMMENDED TEXTS OR SUPPLEMENTAL MATERIALS:**

Handouts dispensed will be generated by the instructor, as necessary.

VIII. **CALENDAR OF TOPICS:**

Major Topics:	Number of Hours
Shop Safety	2
Machine Posture	1
Start-up Procedures	3
Machine Parts/Functions	12
Thread Machine	2
Requested Stitch Operations	4
Requested Program Operations	12
Stitch Quality Tests	3
Basic Preventative Maintenance	5
Basic Machine Malfunctions	6
	50 hours

EL PASO COMMUNITY COLLEGE

ADVANCED TECHNOLOGY CENTER

COURSE OUTLINE

COURSE NUMBER: TEC 828

COURSE TITLE: Programmable Single Needle Sewing Machines

CONTACT HOURS: 50 hours

I. **COURSE DESCRIPTION:**

Designed to teach the operating principles of Advanced/ Programmable industrial sewing machines. Focus will be on single needle lockstitch models.

II. **COURSE RATIONALE:**

Designed to meet the needs of local manufacturers, by providing advanced training to upgrade the sewing skills of dislocated and underemployed sewers.

III. **COURSE OBJECTIVES:**

Upon successful completion of this course, the student will be able to:

A. Safely work in an apparel production environment (identify OSHA requirements).

B. Identify and perform the proper posture for sitting at the machine.

C. Identify and perform machine "start-up" procedures.

D. Identify each function/part of the machines.

E. Properly thread machine.

F. Select, program and perform the proper stitch related to a specific need on a garment area.

G. Program and operate each machine properly.

H. Identify the various (selected) types of stitches or programs.

I. Differentiate between thread tension, synchronizer, speed, bobbin tension, etc. and explain their operational relationship to the overall sewing process on each machine, and illustrate the effect on the stitch.

J. Define and perform basic stitch quality tests on various (selected) fabrics.

K. Perform basic machine preventative maintenance.

L. Identify basic types of machine malfunctions.

IV. **TARGET POPULATION:**

Unemployed and underemployed sewing machine operators that need advanced training to be employed as programmable machine operators.

V. **METHODS OF PRESENTATION:**

The instructional methods include lectures, discussions, demonstrations, visual aids, and as well as individual and group hands-on projects and practice on the machines.

VI. **METHODS OF EVALUATION:**

The skills and knowledge for identification and demonstration as stated in the objectives will be evaluated by assignments and tests. Grades will be based on study questions (40%) and laboratory activities (60%). Letter grade will be assigned as follows:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Students will be able to compute their grade average any time during the course. Missed assignments and make-up tests will be given at the discretion of the instructor.

VII. **RECOMMENDED TEXTS OR SUPPLEMENTAL MATERIALS:**

Handouts dispensed will be generated by the instructor, as necessary.

VIII. **CALENDAR OF TOPICS:**

Major Topics:	Number of Hours
Shop Safety	2
Machine Posture	1
Start-up Procedures	3
Machine Parts/Functions	12
Thread Machine	2
Requested Stitch Operations	4
Requested Program Operations	12
Stitch Quality Tests	3
Basic Preventative Maintenance	5
Basic Machine Malfunctions	6
	50 hours

EL PASO COMMUNITY COLLEGE

ADVANCED TECHNOLOGY CENTER

COURSE OUTLINE

COURSE NUMBER: TEC 784

COURSE TITLE: Computerized Apparel Marker Making and Pattern Grading

CONTACT HOURS: 120 hours

I. **Course Description:**

This course provides the hands-on experience needed to make an efficient transition from manual to high performance computerized marker making and pattern grading.

II. **Course Rationale:**

As the local apparel industry infuses computers into the design and pattern making operations, the need for computer educated pattern graders and marker makers increases. This course will provide such training on various software packages to experienced pattern technicians who manually work in areas being computerized.

III. **Course Objectives:**

Upon successful completion of the course, the student will be able to:

A. Properly "start up" each system.
B. Work through system utilities (menus, system tools).
C. Digitize patterns (input patterns into computer).
D. Edit patterns.
E. Grade patterns.
F. Create marker file
G. Properly "layout" patterns for the marker.
H. Convert marker data
I. Work through plotter utilities
J. Plot a marker.
K. Properly "shut down" each system.

IV. **Target Population:**

Experienced pattern technicians who manually work in areas being computerized.

V. **Methods of Presentation:**

The instructional methods include lectures, discussions, demonstrations, visual aids, as well as individual hands-on projects and practice on the computer software systems.

VI. **Methods of Evaluation:**

The skills and knowledge for identification and demonstration as stated in the objectives will be evaluated by assignments and tests. Grades will be based on study questions (40%) and laboratory activities (60%). Letter grade will be assigned as follows:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Students will be able to compute their grade average any time during the course. Missed assignments and make-up tests will be given at the discretion of the instructor.

Students must be able to demonstrate skill achievement of not less than 70% accuracy.

VII. **Recommended Texts or Materials:**

Manuals and Catalogues:

(1) AMF/Polygon Polynest Software Manual, U.S.A.

(2) Microdynamics GMS & PDS Software Manual, U.S.A.

VIII. **Calendar of Topics:**

Major Topics:	Hours
Properly "start-up" each system	2
Work through system utilities	15
Digitize patterns	20
Edit patterns	10
Grade patterns	18

VIII. **Calendar of Topics: (con't)**

Major Topics:	Hours
Create marker file	7
Properly "layout" patterns for the marker	10
Convert marker data	2
Work through plotter operations	14
Plot a marker	12
System maintenance & file clean	8
Properly "shut down" each system	2
	120

EL PASO COMMUNITY COLLEGE

ADVANCED TECHNOLOGY CENTER

COURSE OUTLINE

COURSE NUMBER: TEC 829

COURSE TITLE: Advanced Industrial Sewing Machine Technician

CONTACT HOURS: 275

I. **COURSE DESCRIPTION:**

Designed to train experienced, conventional, industrial sewing machine mechanics in the maintenance, adjustment, and repair of advanced, programmable, industrial sewing machines.

II. **COURSE RATIONALE:**

As the local apparel industry infuses programmable industrial machines into their production line, the need for trained mechanics to repair this advanced technology increases. This course will provide such training to experienced sewing machine mechanics and to those individuals that successfully complete the SMME 0101 Program - Industrial/Sewing Machine Mechanic.

III. **COURSE OBJECTIVES:**

Upon successful completion of this course, the student will be able to:

A. Identify each function/part of the machine.
B. Properly thread machine.
C. Identify the various (selected) programmable sewing operations.
D. Define and perform stitch quality test on various (selected) fabrics.
E. Perform machine preventative maintenance.
F. Completely disassemble and reassemble the machine to the proper operational order.
G. Perform trouble shooting procedures.
H. Identify the various (selected) types of machine malfunctions and their perspective solutions.

IV. **TARGET POPULATION:**

Experienced/trained conventional industrial sewing machine mechanics that need advanced training to be employed as programmable industrial sewing machine technicians.

V. **METHODS OF PRESENTATION:**

The instructional methods include lectures, discussions, demonstrations, visual aids, as well as individual and group hands on projects and practice on the machines.

VI. **METHODS OF EVALUATION:**

The skills and knowledge for identification and demonstration as stated in the objectives will be evaluated by assignments and tests. Grades will be based on study questions (40%) and laboratory activities (60%). Letter grade will be assigned as follows:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Students will be able to compute their grade average any time during the course. Missed assignments and make-up tests will be given at the discretion of the instructor.

Students must be able to demonstrate skill achievement of not less than 70% accuracy.

VII. **RECOMMENDED TEXTS OR MATERIALS:**

Books, manuals, and/or catalogues:

(1) Mitsubishi Instructional Manual, Tokyo, Japan
(2) Juki Instructional Manual, Tokyo, Japan
(3) Reece Instructional Manual
(4) Durkopp Instructional Manual, West Germany
(5) Pfaff Instructional Manual, West Germany
(6) Wilcox & Gibbs Instructional Manual, USA
(7) Brother Instructional Manual, Nagoya, Japan

Additional handouts will be generated by the instructor as necessary.

VIII. **CALENDAR OF TOPICS:**

Major Topics:	Number of Hours:
Machine Parts/Functions	38
Thread Machine	05
Requested Stitch Identification and Repair	16
Requested Program Identification and Repair	12
Stitch Quality Tests	10
Trouble Shooting	62
Disassemble / Reassemble	93
Machine Malfunctions	39
	275 Hours

APPENDIX C

IEP Form

STUDENT EDUCATIONAL PLAN
ADVANCED TECHNOLOGY CENTER

NAME:_____ COURSE:_____

SS#_____ INSTRUCTOR:_____

Learning Objectives:_____

BASIC SKILLS TO BE ADDRESSED

Area of Concentration: Math

Required Skills:	Present Skill Level:	Plan of Action:	

Area of Concentration: Reading

Required Skills:	Present Skill Level:	Plan of Action:	

Area of Concentration: Language

Required Skills:	Present Skill Level:	Plan of Action:	

COMPUTER ASSISTED INSTRUCTION LAB SCHEDULE

Monday_____ Tuesday_____ Wednesday_____ Thursday_____ Friday_____

COMMENTS: _____

_____

_____

_____

_____ _____ _____ _____

STUDENT SIGNATURE DATE BASIC SKILLS INSTRUCTOR DATE

A:\SEP.KO

STUDENT PROGRESS RECORD

NAME:_____ COURSE:_____

SS#:_____ INSTRUCTOR:_____

DATE:_____

A:\SPR.KO

APPENDIX D

Project Participant Application Form

APPAREL PROJECT
ADVANCED TECHNOLOGY CENTER
EL PASO COMMUNITY COLLEGE

Name:_____

SS#:_____

ADDRESS:_____

PHONE:_____ Emergency Contact & Phone:_____

AGE:_____DATE OF BIRTH:_____ETHNICITY:
Hispanic__ Black__
SEX:_____Male_____Female White___ Oriental___
Other____

Unemployed_____Underemployed_____ Dislocated worker_____
Other (specify)_____

Course Interested In:_____

EDUCATION

Circle the last grade completed:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

High School Attended:_____Diploma___ GED___

Currently Attending School?_____Yes _____No Location:_____

Hours/Days in class:_____

How did you hear about the ATC Apparel Project?_____

EMPLOYMENT

Presently Employed:____Yes ____No Place of Employment_____

Occupation:_____Hourly rate of pay:_____
Number of hours worked per week:_____

I hereby certify the above information to be true and correct

_____ _____
Student's Signature Date

_____ _____
Admissions/Assessment/Advising Specialist Date
D:app.aj

APPENDIX E

Workshops

Workshops

Job Readiness Workshop

Resume Workshop

Interviewing Techniques

Mock Interview

APPENDIX F

Vendors

PALUZI ENTERPRISES, INC.
2931 Rosa Ave.
El Paso, Texas 79905
(915) 533-8276

Debra Castillo
El Paso Community College
Apparel Industry Grant
P.O. Box 20500
El Paso, Texas 79998

August 30, 1990

Dear Ms. Castillo:

Levi Strauss has directed us to donate the following yardage to the charity of our choice and we have selected the Apparel Grant at Community College.

Yrds.	Style	Color
29	3850	White
70	3883	Mango Red
57	3886	Grape

156 yards @ ~~$2.35~~ 5.26 = $820.75

We hope this fabric will help the College in its efforts.

Sincerely,

Mary Paluzi

SUNBRAND®
a division of Willcox & Gibbs, Inc.

3900 Green Industrial Way
Atlanta, Georgia 30341-1961
404/455-0664
800/241-6800
Telex: 70-8427
Cable: Sunbrandco

November 14, 1990

Ms. Debra Castillo
El Paso Community College
Advanced Technology
P.O. Box 205000
El Paso, TX 79998

Dear Debra:

The purpose of this letter is to confirm that Sunbrand, a division of Willcox and Gibbs has arranged that a license agreement to use the FPS software at your college will be issued by Barmish, Zeidel & Associates.

In consideration of your status as an educational institution, there will be no charge for this license agreement. The current selling price of this agreement is $13,000.00.

As previously discussed with Cindy Hoerig, we will bill you separately for installation and training, plus related travel expenses. Any charitable donation receipts should be issued to Sunbrand.

Sincerely,

Camille

Camille Aucoin
Vice President

CA:dv

cc: Mr. Joel Barmish

ENTEL ASSOCIATES, INC.

DEVELOPER AND MARKETER OF SINGER INTELATOG
PC AND MULTIUSER LAN TECHNOLOGY - SALES

November 26, 1990

Deborah Castillo
Advance Technology Center - El Paso
100 East Yandell
El Paso, TX 79901

Dear Ms. Castillo:

Thank you for the opportunity to offer our Intelatog - Piecework Production Control System as a donation to the Advance Technology Center. The specific software modules which we offer to donate to the school are listed below with their retail value.

* Ticket Pinting & Report System	$2,950.
* Piecework Payroll & Operator Performance	3,400.
* Gross To Net Payroll	1,895.
* Work In Process	2,950.

Upon notification of your acceptance of our donation, we will forward the necessary software and related items, and prepare to assist you and/or your staff.

We appreciate your interest in the Intelatog System, and we look forward to working with you on this project. Should you have any questions, please do not hesitate to call.

Sincerely,

John R. Webster
Vice President - Marketing

cc: John Lapenta
Joe Haydicky

SUITE 104-108, 250 GENESEE STREET, UTICA, NY 13502 • TEL. 315-793-3630

R.T.
BARBEE CO., INC.
piece rate payroll supplies
Since
1925

P. O. Box 37246 2127 Hawkins Street
Charlotte, North Carolina 28237 704-375-4421
FAX # 704-375-5225

January 31, 1991

Advance Technology Center
Attn: Ms. Debrah Castillo
P O Box 20500
El Paso, TX 79998

Dear Debrah,

Per the request of Mr. Joe Haydicky, I am sending this letter of donation for your apparel project. You will be receiving in the near future 1,000 8½ x 11" dry gum coupon holders for use with your piece rate payroll system.

Value $40.00

Sincerely,

Lou Schrum

LS/bl

APPENDIX G

Apparel Manufacturers, Industrial Equipment vendors,
and trade show agencies

Mr. Armando Fernandez
A F Industries, Inc.
10812 Notus Lane
El Paso, TX 79935

Mr. Don Shapiro, President
Action West Manufacturing
1931 Myrtle
El Paso, TX 79901

Mr. Al Fernandez
Ameri-Tech Manufacturing, Inc.
5227 Montview Ct.
El Paso, TX 79905

Mr. Moshe Azoulay, President
American Garment Finishers
3715 Durazno Ave.
El Paso, TX 79905

Ms. Andrea Diaz
Apparel Conditioners
1701 Bassett
El Paso, TX 79901

Mr. Henry Scherr, President
Artistic Coat Co.
1831 Texas
El Paso, TX 79901

Mr. Eddie Ontiveros, President
Border Apparel
7177 Merchants
El Paso, TX 79925

Mr. Joe Sanchez, Owner
Champion Boot Co.
505 S. Cotton
El Paso TX 79901

Mr. Jim Hind, President
Continental Apparel
1705 Texas
El Paso, TX 79901

E.L. Ramirez
Dallas Bias Fabric of El Paso
1119 Pendale Road
El Paso, TX 79907

Mr. Nathan Goldman
Desert Cleaners
7025 Alameda
El Paso, TX 79924

Mr. Refugio Partida
A J Finishing Corporation
9901 Carnegie
El Paso, TX 79925

Mr. Patrick Santry, Vice President
Allied Manufacturing Co.
7085 Alameda
El Paso, TX 79902

Mr. W.E. Riddle, Vice President
American Converters
One Butterfield Trail
El Paso, TX 79906

Mr. James Bersch
American Moccassins, Inc.
1601 Bassett
El Paso, TX 79901

Mr. John Dillon
Apparel Mark, Inc.
7598 North Mesa
El Paso, TX 79912

Ms. Barbara Bluemel, President
Bluemel Saddlery
4628 Montana
El Paso, TX 79903

Mr. Juergen Kuehnel, President
CMT Industries, Inc.
208 Octavia
El Paso, TX 79901

Ms. Bertha CCampbell
Comp-It, Inc.
4508 Tetons
El Paso, TX 79904

Mr. Hardol Peitzer
D.P. Cajal's Inc.
656 Rancho Alegre
El Paso, TX 79926

Mr. Sebastian Compos, Manager
Delta Prewash
3922 Delta
El Paso, TX 79905

Mr. Robert Krisel, President
Durango
1629 Wyoming
El Paso, TX 79902

Mr. Alred Howell
ERC
1220 Barranco Drive, Ste. 5F
El Paso, TX 79935

Mr. Cesar Viramontes
Economy Laundry
6995 Market
El Paso, TX 79915

Mr. John Elias, President
Elias Sportswear
1501 E. Missouri
El Paso, TX 79902

Mr. Jack Boatman, V.P. of Engr.
Farah Manufacturing Company
P.O. Box 9519
El Paso, TX 79985

Mr. Mark Ross, Dir. of Human Resources
Farah Manufacturing Company
P.O. Box 9519
El Paso, TX 79985

Mr. Ericc Rothfeld, President
Greater Texas Finishings
1430 Vanderbilt
El Paso, TX 79935

Mr. Dan Heath
Intersew
215 Willow St.
El Paso, TX 79901

Ms. Gloria Rivas, Plant Manager
Lee Company, Inc.
9624 Plaza Circle
El Paso, TX 79927

Mr. Alfredo Amaya, Dir of Human Resources
Levi-Strauss & Company
P.O. Box 371270
El Paso, TX 79937

Ms. Maria de la Pena
Lupe's Manufacturing
132 Raynolds
El Paso, TX 79905

Mr. Eddie Mowad
Mowad Apparel, Inc.
1024 E. Missouri
El Paso, TX 79901

Mr. Peter Bruder Sr.
ONSITE International
1221 Barranca
El Paso, TX 79935

Mr. Mitch Brasington, President
East West Apparel
P.O. Box 10738
El Paso, TX 79997-0738

Mr. James Keller, Opr. Mgr.
El Paso Apparel Group
837 Southwestern
El Paso, TX 79912

Ms. Teresa DeLeon
Fabrics West
6633 N. Mesa
El Paso, TX 79912

Mr. Mark Dunham, Exec. V.P. of Mfg.
Farah Manufacturing Company
P.O. Box 9519
El Paso, TX 79985

Mr. Mike Davis, Vice President
Fashion Enterprises
6969 Industrial
El Paso, TX 79925

Mr. Barry Lee
Image Design
9915 Montana
El Paso, TX 79925

Mr. Gregg Breitegan, Personnel Dir
Johnson & Johnson/Medical, Inc.
350 Artcraft Rd.
El Paso, TX 79912

Mr. Max Cowan, V.P. of Operations
Levi-Strauss & Co.
P.O. Box 371270
El Paso, TX 79937

Mr. Roula Loeza
Loeza's Manufacturing Co.
2227 Texas Ave.
El Paso, TX 79901

Mr. Renato Santomo
Maria Fashions
1707 Myrtle
El Paso, TX 79901

Mr. Mark Mainwaring
OMSA, Inc.
901 Tony Lama Unit #3
El Paso, TX 79915

Ms. Mary Paluzi
Paluzi Enterprises, Inc.
2931 Rosa
El Paso, TX 79905

Mr. Jose Luis Ortega
Prewash & Pressing
2933 Rosa St.
El Paso, TX 79905

Mr. Arnold Brown
Rio Grande Sales Co.
1618 Texas Ave.
El Paso, TX 79901

Mr. Javier Sierra, President
Sierra Western Apparel
1707 Myrtle
El Paso, TX 79901

Mr. Tony Lama, Jr.
Tony Lama Boot Co., Inc.
1137 Tony Lama Street
El Paso, TX 79915

Mr. Charles Overton
Wells Lamont
5200 El Paso Dr.
El Paso, TX 79904

Mr. Raymond Klein
Stitches
1144 Vista De Oro
El Paso, TX 79935

Mr. Alejandro Ruiz
Christian Fashions
1314 Myrtle
El Paso, TX 79901

Ms. Sandra Corrales, Owner
Grenalee, Inc.
2101 Myrtle
El Paso, TX 79901

Mr. David Cohen
Mex-Tex of El Paso
1010 Wyoming Ave.
El Paso, TX 79902

Mr. Gary Black, Plant Manager
Wrangler Co.
P.O. Box 1088
Fabens, TX 79838

1991 Apparel Show of the Americas
Miami Beach, Florida

Mr. Albert Camhi
Primrose Fashions of Texas
2101 Myrtle
El Paso, TX 79901

Mr. Leon Ruddock
Ruddock Manufacturng
P.O. Box 10205
El Paso, TX 79993

Mr. Phil Heyser, Comptroler
Sun Apparel
11201 Armor Dr.
El Paso, TX 79935

Mr. Thomas Larocca
Union Manufacturing Co.
801 Texas
El Paso, TX 79901

Mr. Jesus Oropeza, Manager
Wrangler Co.
1138 Barranca
El Paso, TX 79935

Mr. Bernie Rudner
807 Company
9270 G Billy the Kid
El Paso, TX 79907

Mr. Hector Torres, Sr., Manager
Farah Manufacturing, Inc.
P.O. Box 9519
El Paso, TX 79985

Mr. Rene Holguin
Laramie Boot Co.
8069 Alameda
El Paso, TX 79915

Mr. Tony Cano
Tony Cano, Inc.
5374 Cory Drive
El Paso, TX 79932

The 1990 Bobbin Show
Atlanta, Georgia

Market Hall
Dallas, TX

1990 American Vocation Association Convention
Cincinnati, Ohio